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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,757	06/30/2003	Robert W. Turner	BO1 - 0268US	5016

60483 7590 04/19/2007			EXAMINER	
LEE & HAYES, PLLC			TABATABAI, ABOLFAZL	
421 W. RIVERSIDE AVE.				
SUITE 500		ART UNIT	PAPER NUMBER	
SPOKANE, WA 99201		2624		

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
	10/611,757	TURNER ET AL.
Office Action Summary	Examiner	Art Unit	
	Abolfazl Tabatabai	2624	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _30 June 2003_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-33_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-3, 10-21, 28, 29 and 31-33_ is/are rejected.

7)☐ Claim(s) _4-9, 22-27 and 30_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _30 June 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _6/30/2003_.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

2. Claim 11-20, 31 and 32 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter as follows.

3. Claims 11 and 31 recite "A computer program product **residing** on a computer

readable medium for sharpening on or more bands of sensor data in the visual

spectrum, the computer program product.... " embodying functional descriptive material

However, the claim does not define a computer-readable medium or memory and is

thus non-statutory for that reason (i.e., "When functional descriptive material is recorded

on some computer-readable medium it becomes structurally and functionally

interrelated to the medium and will be statutory in most cases since use of technology

permits the function of the descriptive material to be realized" – Guidelines Annex IV).

That is, the scope of the presently claimed " a computer software product " (line 1 of

claim 26) can range from paper on which the program is written, to a program simply

contemplated and memorized by a person. The Examiner suggests amending the claim

such as "A computer-readable medium **embodied with a** computer program for..." or

equivalent in order to make the claim statutory. Any amendment to the claim should be

commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claims 1-3, 10-21, 27-29, 31 and 33 are rejected under 35 U.S.C. 102(b) as

being anticipated by Yuen (U. S. 5,949,914).

Regarding claim 1, Yuen discloses a method for sharpening one or more bands

of sensor data, the method comprising:

receiving blue, green, red (please note, to column 11, lines 40-41), near-infrared

(Please note, to abstract and column 5, lines 22-27), and panchromatic bands of data

(please note, to column 5, lines 55-58);

correcting data of the panchromatic band based on the blue, green, red, and

near-infrared bands of data (please note, to column 10, lines 1-9); and,

sharpening the data of one or more of the green, red, and near-infrared bands

based on the corrected data of the panchromatic band (please note, to column 11, lines

36-46).

Regarding claim 2, Yuen discloses the method of claim 1, further comprising

combining the sharpened data of the green, red, and near-infrared bands with the

received panchromatic band of data (please note, to column 2, lines 19-35).

Regarding claim 3, Yuen discloses the method of claim 2, further comprising

generating an image based on the combined data and displaying the generated image

(please note, to column 5, lines 29-32).

Regarding claim 10, Yuen discloses the method of claim 1, wherein the blue,

green, red, near-infrared, and panchromatic bands of data are generated by one of an

aircraft or satellite sensing system (please note, to column 3, lines 52-54).

Regarding claim 11, Yuen discloses a computer program product residing on a

computer-readable medium for sharpening one or more bands of sensor data in the

visual spectrum, the computer program product comprising:

first computer program code (please note, to Fig. 9A, element 145 and column 9,

lines 16-21) means for receiving blue, green, red (please note, to column 11, lines 40-

41), near-infrared (please note, to abstract and column 5, lines 22-27), and

panchromatic bands of data (please note, to column 5, lines 55-58); second computer

program code (please note, to Fig. 9A, element 145 and column 9, lines 16-21) means

for correcting data of the panchromatic band based on the blue, green, red, and near-

infrared bands of data (please note, to column 10, lines 1-9); and third computer

program code (please note, to Fig. 9A, element 145 and column 9, lines 16-21) means

for sharpening the data of one or more of the green, red, and near-infrared bands based

on the corrected data of the panchromatic band (please note, to column 11, lines 36-

46).

Regarding claim 12, Yuen discloses the computer program product of claim 11,

further comprising fourth computer program code (please note, to Fig. 9A, element 145

and column 9, lines 16-21) means for combining the sharpened data of the green, red,

and near-infrared bands with the received panchromatic band of data (please note, to

column 2, lines 19-35).

Regarding claim 13, Yuen discloses the computer program product of claim 12,

further comprising fifth computer program code (please note, to Fig. 9A, element 145

and column 9, lines 16-21) means for generating an image based on the combined data

and a means for displaying the generated image (please note, to column 5, lines 29-32).

Regarding claim 20, Yuen discloses the computer program product of claim 11,
wherein the blue, green, red, near-infrared, and panchromatic bands of data are
generated by one of an aircraft or satellite sensing system (please note, to column 3,
lines 52-54).

Regarding claim 21, Yuen discloses a system for sharpening one or more bands
of sensor data, the system comprising: a processor coupled to the input interface, the
processor including (please note, to Fig. 9A, element 145): a first component (Fig. 10,
element 256) configured to receive blue, green, red (please note, to column 11, lines
40-41, near-infrared (please note, to abstract and column 5, lines 22-27), and
panchromatic bands of data (please note, to column 5, lines 55-58); a second
component (Fig. 10, element 266) configured to correct data of the panchromatic band
based on the blue, green, red, and near-infrared bands of data(please note, to column
10, lines 1-9); a third component (Fig. 10, element 264) configured to sharpen the data
of one or more of the green, red, and near-infrared bands based on the corrected data
of the panchromatic band (please note, to column 11, lines 36-46); and a fourth
component configured to combine the sharpened data of the green, red, and near-
infrared bands with the received panchromatic band of data (Fig. 7, element 92); and a
display device coupled to the processor configured to display an image based on the
combined data (Fig. 7, element 94).

Regarding claim 28, Yuen discloses the system of claim 21, wherein the blue,
green, red, near-infrared, and panchromatic bands of data are generated by one of an
aircraft or satellite sensing system (please note, to column 3, lines 52-54).

Regarding claim 29, Yuen discloses a method for sharpening one or more bands

of sensor data, the method comprising:

receiving a plurality of first bands of data at a first resolution level, and a second

band of data at a second resolution level, wherein the plurality of bands of data are

included within the second band and the first resolution level is less than the second

resolution level (Fig. 4, and column 4, lines 57-65); correcting data of the second band

based on the plurality of first bands of data (please note, to column 10, lines 1-9); and

sharpening the data of one or more of the plurality of first bands based on the corrected

data of the second band (please note, to column 11, lines 36-46).

Regarding claim 31, Yuen discloses a computer program product residing on a

computer-readable medium for sharpening one or more bands of sensor data in the

visual spectrum, the computer program product comprising: first computer program

code (please note, to Fig. 9A, element 145 and column 9, lines 16-21) means

configured to receive a plurality of first bands of data at a first resolution level, and a

second band of data at a second resolution level, wherein the plurality of bands of data

are included within the second band and the first resolution level is less than the second

resolution level (Fig. 4, and column 4, lines 57-65); second computer program code

(please note, to Fig. 9A, element 145 and column 9, lines 16-21) means configured to

correct data of the second band based on the plurality of first bands of data (please

note, to column 10, lines 1-9); and third computer program code (please note, to Fig.

9A, element 145 and column 9, lines 16-21) means configured to sharpen the data of

one or more of the plurality of first bands based on the corrected data of the second

band (please note, to column 11, lines 36-46).

Regarding claim 33, Yuen discloses a system for sharpening one or more bands of sensor data, the system comprising: a processor coupled to the input interface, the processor including (please note, to Fig. 9A, element 145. Yuen does not disclose the input interface, however the input interface is inherent in Yuen): a first component (Fig. 10, element 256) configured to receive a plurality of first bands of data at a first resolution level, and a second band of data at a second resolution level, wherein the plurality of bands of data are included within the second band and the first resolution level is less than the second resolution level (Fig. 4, and column 4, lines 57-65); a second component (Fig. 10, element 266) configured to correct data of the second band based on the plurality of first bands of data (please note, to column 10, lines 1-9); a third component (Fig. 10, element 264) configured to sharpen the data of one or more of the plurality of first bands based on the corrected data of the second band; and a fourth component configured to combine the sharpened data with the second band of data. A display device coupled to the processor configured to display an image based on the combined data (please note, to fig. 7, element 94).

Allowable Subject Matter

6.   Claims 4-9, 22-27 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other Prior Art Cited

7.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Sunshine et al (U. S. 6,741,740 B2) disclose method for selecting representative

end member components from spectral data.

Specht et al (U. S. 6,937,774 B1) disclose apparatus and method for efficiently

increasing the spatial resolution of images.

Tom (U. S. 4,683,496) discloses system for and method of enhancing images

using multiband information.

Colvocoresses (U. S. 4,313,678) disclose automated satellite mapping system

(MAPSAT).

Contact Information

8. Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to ABOLFAZL TABATABAI whose telephone number is

(571) 272-7458.

The Examiner can normally be reached on Monday through Friday from 9:30 a.m. to

7:30 p.m. If attempts to reach the Examiner by telephone are unsuccessful, the

Examiner's supervisor, Bhavesh Mehta, can be reached at (571) 272-7453. The fax

phone number for organization where this application or proceeding is assigned is (571)

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Abolfazl Tabatabai

Patent Examiner

Technology Division 2624

April 12, 2007